

What Is Claimed Is:

1. A splined connection assembly for use with a universal joint, said
splined connection assembly comprising:
an externally splined shaft;
5 a housing having a mating internally splined bore; and
a plurality of radially compressible, elongate members having a C-
shaped cross-section, each elongate member received within a corresponding
longitudinally extending, opening disposed in said housing and engaging the
externally splined shaft and internally splined bore for providing a radial force for
10 compensating clearance deviations between said externally splined shaft and
internally splined bore.
2. The splined connection assembly of claim 1 wherein each elongate
member is formed of a spring steel material.
3. The splined connection assembly of claim 1 wherein said elongate
15 members are disposed parallel to the axis of rotation of said splined shaft and each
of said longitudinal extending openings is radially distributed 120° apart from each
other around said axis.
4. A universal joint connection assembly comprising:
a slip joint coupling having a splined shaft with a plurality of male
20 splines formed thereon;
a receiving member for receiving the splined shaft therein and having
a plurality of female splines for mating with the plurality of male splines of the
splined shaft, the receiving member further having a plurality of circumferentially
distributed, longitudinally extending, axis-parallel openings; and

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an elongate member having a C-shaped cross-section received within an each of the plurality of longitudinally extending openings and engaging the splined shaft for providing a radial force between the splined shaft and the receiving member.

5 5. The slip joint connection assembly of claim 4 wherein the elongate member is formed of a spring steel material.

6. A receiver assembly for receiving a splined shaft having an externally splined yoke, the receiver assembly comprising:

10 a receiving member having a housing and an internally splined cylindrical opening for receiving and mating with the externally splined yoke, the receiving member further having a plurality of circumferentially distributed, longitudinally extending, axis-parallel openings; and

15 an elongate tubular member having a C-shaped cross-section received within an each of the plurality of axially extending semi-circular openings and engaging the shaft for providing a radial force between the splined shaft coupling and the receiving member.

20 7. The receiver assembly of claim 6 wherein each of the axis-parallel openings of the receiving member are radially distributed 120° apart from each other.

8. The receiver assembly of claim 6 wherein the elongate member is formed of a spring steel material.

25 9. A slip joint and receiver assembly comprising:
a slip joint having a splined yoke with a plurality of male splines formed thereon;

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a receiving member having an inner surface defining an opening for receiving the splined yoke of the slip joint, the opening having a plurality of female splines for mating with plurality of the male splines of the splined yoke, the receiving member further having three circumferentially distributed, longitudinally
5 extending, axis-parallel, C-shaped recesses, each recess oriented between an adjacent pair of the plurality of female splines; and

an elongate member having a C-shaped cross-section received within
an each of the plurality of axially extending C-shaped recesses and engaging the
splined yoke for providing a radial force between the slip joint and the receiving
10 member.

10. The slip joint and receiver assembly of claim 9 wherein each of the axis-parallel, C-shaped recesses of the receiving member are radially distributed 120° apart from each other.

11. The slip joint and receiver assembly of claim 9 wherein the
15 elongate member is formed of a spring steel material.

12. The slip joint and receiver assembly of claim 9 wherein the opening of the receiving member has an inner surface and each of the C-shaped recesses is disposed adjacent the inner wall of the transfer case so that the opening and each of the C-shaped recesses form a continuous cavity.

13. A propeller shaft and transfer case assembly comprising:
at least one propeller shaft having a first end;
a shaft coupling mounted to the first end of the at least one propeller
shaft and having a splined shaft attached thereto;
a transfer case having an axially extending opening for receiving the
20 splined shaft, the opening having an inner surface with a plurality of female splines
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formed thereon for operably engaging the splined shaft for transmitting torque to the at least one propeller shaft, the transfer case further having a housing with a plurality of radially equispaced, longitudinally extending, axis-parallel recesses formed therein; and

5 a clearance compensating member having a semi-circular cross-section and received within an each of the plurality of axis-parallel openings and engaging the splined shaft for providing a radial force between the shaft coupling and the transfer case.

10 14. The propeller shaft and transfer case assembly of claim 13 wherein the semi-circular cross-section of the clearance compensating member is a C-shaped cross-section.

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